

# *Recent Findings regarding the Habitat Value of Wetlands used to Treat Urban Runoff*

*December 4, 2003*

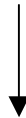


Karen Bane, Coastal Conservancy  
David Cannon, Everest International Consultants, Inc.  
Martha Sutula, So Cal Coastal Water Research Project

# **Environmental Education Is Working!!!!!!**

Message on the Street:

Wetlands Clean Water



Wetlands Do Everything!

# **Increasing Interest in Harnessing Wetlands for Treatment**



## **Increasing Permit and Grant Applications**

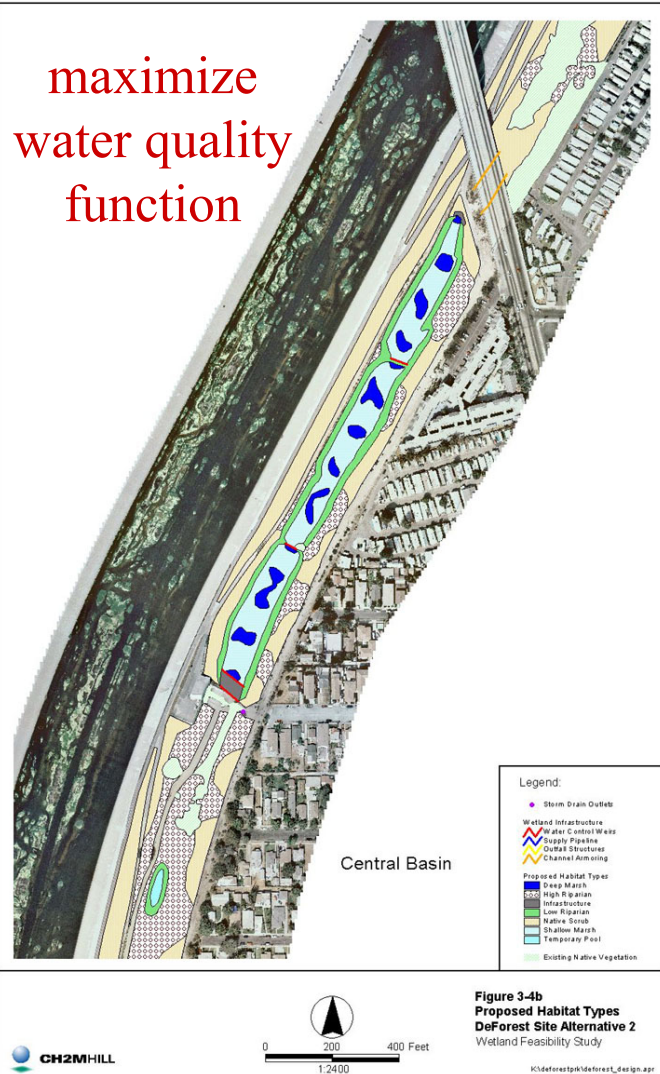
- Clean Water Act: Phase 2 Storm Water Rules
- Total Maximum Daily Loads (TMDLs)
- Water Reuse
- Groundwater Recharge



# But, Can Wetlands Do Everything Well?

## Alternative “Restoration” Designs

maximize  
water quality  
function



maximize  
habitat  
function



# Resource Managers Want to Know!

- **When we maximize treatment in natural or constructed wetlands, will we sacrifice habitat quality? To what degree?**
  - Have learned that physical designs – and thus habitat diversity – may vary with goals.
  - Does habitat quality due to eco-toxicology vary?
  - Maintenance disturbs wildlife and habitat.
- **Are wetlands effective BMPs for urban runoff quality?**
- **If tradeoffs are a reality, then how do we RESPONSIBLY proceed with multipurpose wetlands?**

# State Coastal Conservancy Seeks to Resolve Uncertainties and Open Dialogue on this Issue

- Step 1: Establish baseline of science and regulatory context
- Step 2: Foster interagency coordination
- Step 3: Conduct public outreach
- Step 4: Conduct priority research and develop tools





# **Step 1: Establish Baseline of Science and Regulatory Context**

**Habitat Value of Natural and Constructed Wetlands  
Used to Treat Urban Runoff: A Literature Review**

**Martha Sutula and Eric Stein  
SCCWRP Technical Report #388, July 2003**

**Regulatory Context for Use of Natural and  
Constructed Wetlands to Treat Urban Runoff**

**David Cannon, Everest International, Winter 2003**

**Q & A**



# Next Steps

- Step 2: Foster interagency coordination
- Step 3: Conduct public outreach
  - H2O Conference- October 2003
  - Public workshop(s) – December 4, 2003
- Step 4: Develop tools to incorporate new information and conduct priority research

# **Interagency Coordination: October 1, 2003 Workshop**

- What Are the Implications of Literature Review Findings for Our Work?
- What Guidelines and Tools Are Needed?
- What are the Research Priorities from an Agency Perspective?
- How Shall We Continue Interagency Coordination and Accomplish Next Steps?

# Discussion:

■ What is the extent and implication(s) of this Issue for your Work?

- Are wetlands the first water quality BMP you pursue?
- Is this the first time you've considered that both habitat and treatment may not always be optimized in a single wetland?



# Results of Interagency Dialogue: Extent of Issue

- Increasing permit and grant applications for multipurpose wetlands due to TMDLs and storm water rules.
- Limited space in So Cal for wetlands. Need to figure out when and how may accommodate multiple purposes without damage.
- Generally not collecting data to ascertain treatment effectiveness, habitat quality, or costs.

# Results of Interagency Dialogue: Policy ?s

- Many RWQCBs agree that H<sub>2</sub>O standards should be met prior to discharge to a “Water of the US”; however, defining boundaries not always easy.
- Wetlands should not solely bear burden of improving urban runoff quality.
- Monitoring: What?, Who will do it and track it?

# Discussion:

- ❏ What tools would help you incorporate this information into your work?



# Results of Interagency Dialogue: Tools

## ■ Guidance

- setting and evaluating project goals
- siting

## ■ Monitoring

- standards: treatment, habitat, costs
- repository and analysis

## ■ Case Studies – successes and lessons learned

## ■ Matrix of Plants – treatment and habitat function

# Implications for WRP Work

## 1. More Intentional Goals for Wetland Projects

All wetlands are not equal

→ Treatment Effectiveness (site specific; lack info for arid climate)

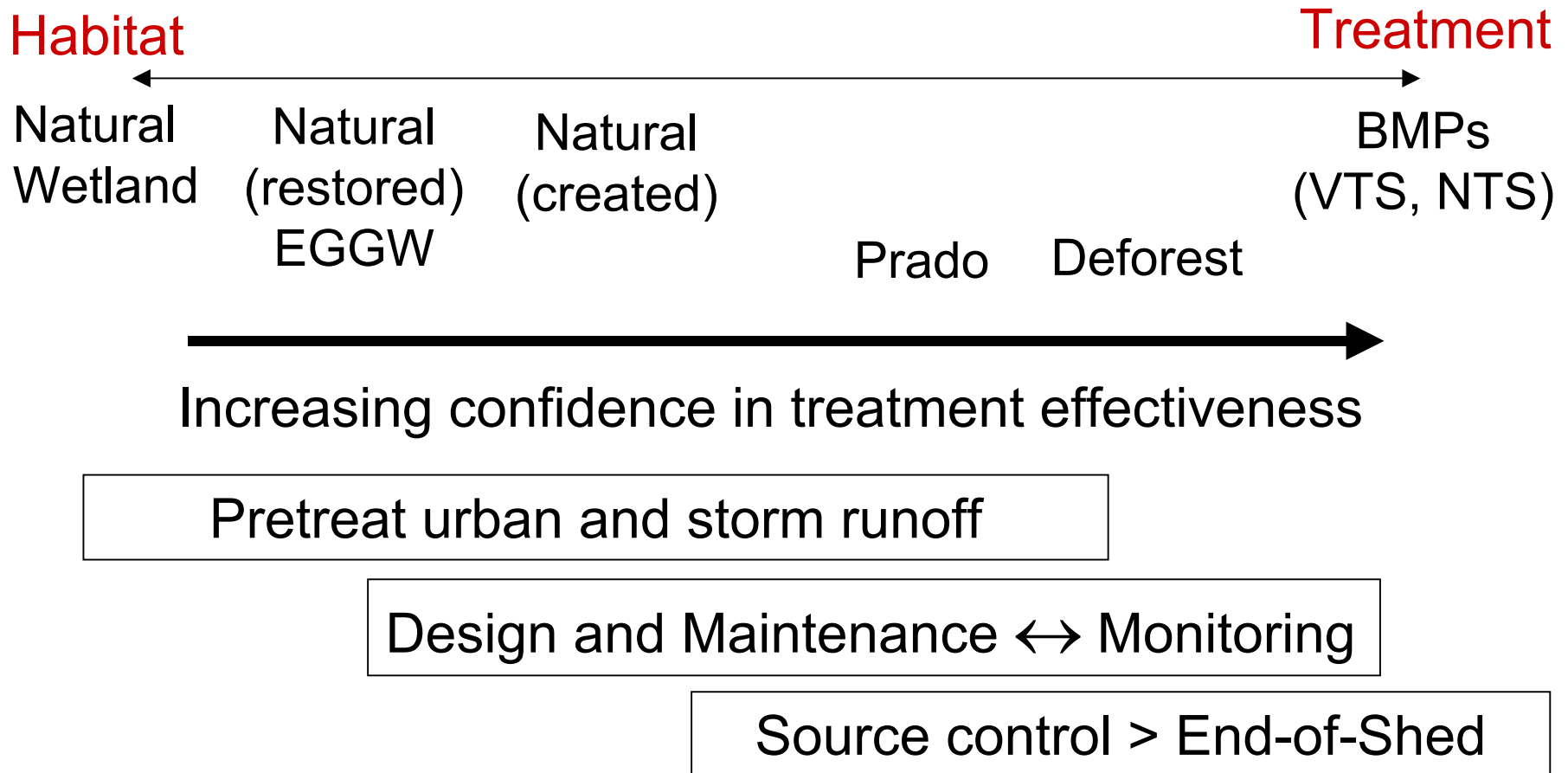
→ Habitat (Structure; Floral & Faunal Communities)



Clear project goal informs siting, design, and funding

# Implications for WRP Work

## 2. Caution Warranted as Proceed with Multipurpose Wetlands





# Treatment Wetland Inventory – A Precursor to Research

If you have a treatment wetland or a wetland primarily receiving urban runoff, then Please email Martha Sutula at [marthas@sccwrp.org](mailto:marthas@sccwrp.org) the following information:

- Name and location of wetland
- Contact person's phone and email
- Indicate whether monitoring data is collected